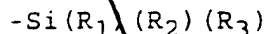


1. A process for inhibiting the fouling of a substrate in a fouling environment, which comprises forming on the substrate, before exposure to the said environment, a coating comprising a film-forming polymer (A) carrying unreacted curable silicon-containing functional groups providing latent reactivity, and thereafter applying a layer comprising a curable polymeric fouling-inhibiting material (B) and bonding the applied layer to the said coating by a condensation curing reaction involving the unreacted functional groups thereon.

3. A process as claimed in claim 1 or 2, wherein the silicon-containing functional groups are curable by virtue of one or more curable functional groups selected from aliphatic, aromatic and araliphatic ether and oxime groups, which groups may be substituted or unsubstituted.

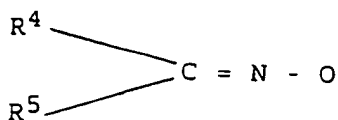
4. A process as claimed in claim 1 or claim 2, wherein the curable silicon-containing functional groups are groups of the formula



in which the groups represented by R_1 , R_2 and R_3 may be the same or different and each may comprise an ether or ester group, preferably a group including a straight-chain or branched alkyl moiety having from 1 to 4 carbon atoms, and in which one or two of R_1 to R_3 may represent hydrogen or a hydrocarbon group, preferably a straight-chain or branched alkyl group having from 1 to 4 carbon atoms.

5. A process as claimed in claim 1 or claim 2, wherein the silicon-containing functional groups are curable by virtue of one or more oxime groups of the

formula



in which R⁴ and R⁵ may be the same or different and each represents a straight-chain or branched, saturated or unsaturated, aliphatic hydrocarbon radical, preferably having up to 7 carbon atoms, more especially up to 4 carbon atoms, especially a methyl or ethyl group; an aromatic group, for example, a phenyl group; or an araliphatic group, for example, a benzyl group; or R⁴ and R⁵ together represent an alkylene group; or one of R⁴ and R⁵ represents hydrogen.

6. A process as claimed in claim 1 or claim 2, wherein the curable silicon-containing functional groups are trimethoxy silyl or methyl dimethoxysilyl groups.

7. A process as claimed in any one of claims 1 to 6, wherein the polymer (A) has no silanol or amine functionality.

8. A process as claimed in any one of claims 1 to 7, wherein the polymer (A) carries no functional groups other than the curable silicon-containing functional groups conferring latent reactivity.

9. A process as claimed in any one of claims 1 to 8, wherein at least a major proportion of the repeating units in the film-forming polymer (A) are other than siloxane repeating units.

10. A process as claimed in claim 9, wherein the proportion of siloxane repeating units in the film-forming polymer (A) is not more than 25%, preferably not more than 10%, and more especially not more than 5%.

11. A process as claimed in any one of claims 1 to 10, wherein the polymer (A) is substantially free from siloxane repeating units.

12. A process as claimed in any one of claims 1 to 11, wherein the polymer (A) is derived from one or

Sub
A1
cont'd

002250 42765500

more monomers (A1) which carry curable silicon-containing functional groups and one or more monomers (A2) which do not carry such groups.

5 13. A process as claimed in any one of claims 1 to 12, wherein the polymer (A) is derived from one or more ethylenically unsaturated monomers.

14. A process as claimed in any one of claims 1 to 13, wherein the Tg of the polymer (A) is above ambient temperature.

10 15. A process as claimed in any one of claims 1 to 14, wherein the polymer (A) has a number-average molecular weight in the range of from 3 000 to 10 000.

15 16. A process as claimed in any one of claims 1 to 15, wherein the unreacted curable silicon-containing functional groups provide a period of latent reactivity of 48 hours or more.

17. A process as claimed in any one of claims 1 to 16, wherein the fouling-inhibiting material (B) is curable by virtue of silanol or silicon-alkoxy groups.

20 18. A process as claimed in any one of claims 1 to 16, wherein the fouling-inhibiting material (B) is curable by virtue of curable functional groups selected from aliphatic, aromatic and araliphatic ether, ester and oxime groups, trialkoxysilyl or hydrosilyl groups.

25 19. A process as claimed in any one of claims 1 to 18, wherein the fouling-inhibiting material (B) is a linear polymer.

30 20. A process as claimed in any one of claims 1 to 19, wherein the fouling-inhibiting material comprises a curable polysiloxane.

35 21. A process as claimed in claim 20, wherein the polysiloxane (B) has the structure $R^3O(SiR^1R^2O)_nR^3$, in which R^1 and R^2 , which may be the same or different on each silicon atom and on different silicon atoms in the polymer, each represents an alkyl group; an alkenyl group; a cycloalkyl or cycloalkenyl group; an aryl group;

Sub at 002250

OR³ represents a curable functional group in which R³ represents a monovalent radical; and n represents a degree of polymerisation.

22. A process as claimed in any one of claims 1 to 19, wherein the fouling-inhibiting material comprises a curable fluorine-containing polymer.

23. A process as claimed in claim 22, wherein the fluorine-containing polymer comprises a fluoro-acrylate polymer.

24. A process as claimed in any one of claims 1 to 23, wherein the fouling-inhibiting material (B) has a number-average molecular weight in the range of from 5 000 to 85 000.

25. A process as claimed in any one of claims 1 to 24, wherein the fouling-inhibiting material (B) is applied in admixture or conjunction with a catalyst for the condensation curing reaction.

26. A process as claimed in any one of claims 1 to 25, wherein the fouling-inhibiting material (B) is applied in admixture or conjunction with a cross-linking agent for the condensation curing reaction.

27. A process as claimed in any one of claims 1 to 26, wherein the substrate has a worn or damaged anti-fouling coating thereon.

28. A process as claimed in any one of claims 1 to 27, wherein the fouling environment is an aquatic environment.

29. A process as claimed in claim 28, wherein the fouling environment is a marine environment.

30. A substrate in a fouling environment and bearing a coating and a cured fouling-inhibiting layer

~~Q2 on separate page~~

~~A37~~



